The impact of Farmer Field Schools and Rainforest Alliance certification in the smallholder tea sector in Kenya, 2006–2016

Yuca Waarts, Just Dengerink, Linda Puister-Jansen, Fédes van Rijn, Davies Onduru* (*ETC-East Africa)
Do FFS lead to improved tea farmer incomes?

- Does training farmers in **Farmer Field Schools (FFS)** lead to **improved incomes**, through the **adoption of good tea practices, improved yields, diversification and incomes**?

- Does training for **Rainforest Alliance certification** contribute to adoption, yields and incomes as well?
Positive impacts of FFS and RA certification

- In the pilot phase, FFS led to improved adoption, and FFS farmers perceived participation to have resulted in diversification and higher incomes (2006-2008).

- The FFS have had a positive impact on adoption, yields, incomes and diversification between 2009 and 2013. Rainforest Alliance certification impacted positively on adoption rates and yields.

- Between 2013 and 2015, the FFS had a positive impact on yields, diversification and food security, but no impact on incomes was found because of external influencing factors.
### Contributors to FFS impact

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>KTDA</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Unilever</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>DFID</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDH the sustainable trade initiative</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Rainforest Alliance</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands Embassy in Nairobi</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The funding by Unilever and DFID facilitated the implementation of the FFS pilot at KTDA (2006-2008), including the evaluation of the results of the pilot. The evaluation research in the Upscaling phase was funded by the Netherlands Embassy in Nairobi. The impact of the Embedding Sustainability Programme can be attributed in large part to the three funders: KTDA, Unilever and IDH all contributed one third of the program funds, including the impact evaluation by Wageningen University & Research and ETC-East Africa in that period. The co-funding of Unilever and IDH played a key role in upscaling the FFS approach at KTDA.
Methodology
Quantitative and qualitative research methods used

- **Quantitative:** A **household survey** with FFS farmers as well as farmers who did not participate in an FFS:
  - In 4 factories in 2006 and 2008
  - In 4 other factories in 2009, 2011 and 2013
  - In 2 new factories in 2013 and 2015

- **Qualitative:** **Focus Group discussions** with FFS farmers and non-participants
  - In 4 factories in 2011
  - In 2 factories in 2015

- **Qualitative:** **Interviews with all stakeholders** involved in the sustainable tea program
How many farmers were trained?
86,020 FFS farmers trained, of whom 45,849 women

Source: KTDA
All KTDA factories Rainforest Alliance certified by 2014

Source: Rainforest Alliance
Findings & food for thought
## Positive impact of FFS and Rainforest Alliance

### Economic effects: 2006-2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adoption of practices</strong></td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td><strong>Green leaf yield per hectare</strong></td>
<td>X d)</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ e)</td>
</tr>
<tr>
<td><strong>Green leaf income</strong></td>
<td>✓ f)</td>
<td>✓ b)</td>
<td>✓ g)</td>
<td>✓ h)</td>
</tr>
<tr>
<td><strong>Diversification</strong></td>
<td>✓ f)</td>
<td>-</td>
<td>✓</td>
<td>✓ f)</td>
</tr>
<tr>
<td><strong>Household income</strong></td>
<td>✓ f)</td>
<td>-</td>
<td>-</td>
<td>✓ h)</td>
</tr>
</tbody>
</table>

**Evaluation of FFS or Rainforest Alliance?**

- **FFS**
- **FFS + RA**
- **FFS**
- **FFS**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) FFS &amp; RA</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>c) adoption already high</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>e) lower decrease</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>g) lower decline</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>- not measured</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>b) FFS</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>d) climatic influence</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>f) qualitative</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
<tr>
<td>h) decrease for all farmers</td>
<td>✓</td>
<td>✓ a)</td>
<td>✓</td>
<td>✓ c)</td>
</tr>
</tbody>
</table>

- **FFS**
- **FFS + RA**
- **FFS**
- **FFS**
### Positive impact of FFS Social effects 2006-2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and nutrition security</td>
<td>✓ a)</td>
<td>-</td>
<td>✓ a)</td>
</tr>
<tr>
<td>Relationship with the factory</td>
<td>✓</td>
<td>-</td>
<td>✓ a)</td>
</tr>
<tr>
<td>Health effects</td>
<td>-</td>
<td>-</td>
<td>✓ a)</td>
</tr>
<tr>
<td>Women’s leadership capacity</td>
<td>-</td>
<td>-</td>
<td>✓ a)</td>
</tr>
</tbody>
</table>

a) Qualitative - not measured
Factors influencing the results

- There are **huge differences in yields and prices per factory, per farmer, and over time**. Because of agro-ecological and climatic conditions and market price fluctuations.

- The **market price** for tea and the **exchange rate** (USD - KES) **influenced farmer incomes heavily**. Productivity increase thus did **not always lead to income increase**.

- Rainforest Alliance certification **increased farmers’ cost of production** between 2009 and 2011, resulting in no changes of income for farmers who were not trained in an FFS.
Poverty alleviation remains a challenge

- Many farmers cannot earn much with producing green leaf because of small and decreasing plot sizes.
- The average farm size decreased from 0.25 to 0.21 ha between 2008 and 2015.
- Green leaf incomes were on average per family per day:
  - 3.3 USD (2009), 5.4 USD (2011),
- As farmers heavily depend on green leaf income, and tea plots are small, it is difficult to lift them out of poverty. Even with diversification and higher yields and prices.
Recommendations
Focus trainings (topics / target groups) and continue working with graduated groups

- **Focus the implementation of FFSs on those farmers who still stand to substantially improve their tea practices.** This is likely to have a bigger impact, and would therefore increase the efficiency of FFS implementation.

- **Continue the training on diversification and nutrition,** as it contributes to resilience and food security.

- **Explore ways of increasing the activities of farmers who have graduated from an FFS** to address production problems and continue to experiment with innovations.
Address farm size challenge

- Explore ways of managing the fact that tea plots are getting smaller, and smaller plots tend to be less productive.
- We should learn from similar developments occurring in other sectors.
Background information
The next slides include:

- more information on the **methodology**
- **trends** in green leaf yield per hectare and green leaf prices between 2008 and 2015

The **yield and price information is based on KTDA factory data** for six factories

- **Green leaf prices**, paid to tea farmers, are **based on international tea prices** and **factory performance**

- The figures show a **large variation in yield and price levels over time**, and between the six factories studied
## Detailed information on research methods

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of farmers</strong></td>
<td>Total: 120</td>
<td>Total: 356</td>
<td>Total: 331</td>
<td>Total: 240</td>
</tr>
<tr>
<td>interviewed with household</td>
<td>60 FFS</td>
<td>116 FFS</td>
<td>164 FFS</td>
<td>120 FFS</td>
</tr>
<tr>
<td>survey</td>
<td>60 non-FFS</td>
<td>240 non-FFS</td>
<td>167 non-FFS</td>
<td>120 non-FFS</td>
</tr>
<tr>
<td><strong>Focus group discussions</strong></td>
<td></td>
<td>4, 2 with FFS</td>
<td>4, 2 with FFS</td>
<td></td>
</tr>
<tr>
<td><strong>Stakeholder interviews</strong></td>
<td>All stakeholders</td>
<td>All stakeholders</td>
<td>All stakeholders</td>
<td>All stakeholders</td>
</tr>
<tr>
<td><strong>Number of factories</strong></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>in the study</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation of FFS /</strong></td>
<td>FFS</td>
<td>FFS + RA</td>
<td>FFS</td>
<td>FFS</td>
</tr>
<tr>
<td><strong>Rainforest Alliance?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Trend in green leaf yield per hectare

- All farmers in 6 factories
- Factory 1 (West of Rift Valley)
- Factory 2 (East of Rift Valley)
- Factory 3 (West of Rift Valley)
- Factory 4 (East of Rift Valley)
- Factory 5 (East of Rift Valley)
- Factory 6 (West of Rift Valley)

Trend in green leaf prices

Price per kg green leaf (KES)

July 2008–June 2009
July 2009–June 2010
July 2010–June 2011
July 2011–June 2012
July 2012–June 2013
July 2013–June 2014
July 2014–June 2015

Factory 1 (West of Rift Valley)
Factory 2 (East of Rift Valley)
Factory 3 (West of Rift Valley)
Factory 4 (East of Rift Valley)
Factory 5 (East of Rift Valley)
Factory 6 (West of Rift Valley)
Further reading
Please find more information through:

- Final impact evaluation of Farmer Field School implementation in the smallholder tea sector in Kenya, 2009–2016
  - library.wur.nl/WebQuery/wurpubs/fulltext/401403
- For all the tea in Kenya - Impact assessment and baseline situation of Farmer Field Schools (2011-2013)
  - edepot.wur.nl/310209
  - edepot.wur.nl/214044
Please find more information through:

  - edepot.wur.nl/244453

  - edepot.wur.nl/5554
Thank you!

For more information, please contact:

**Mrs. Yuca Waarts**
Wageningen University & Research
yuca.waarts@wur.nl

**Mr. Davies Onduru**
ETC-East Africa
d.onduru@etc-eastafrica.org

Special thanks to André de Jager and Sabine Hiller for their involvement in the research program 2006-2010.
Photos: Sabine Hiller (slide 6), André de Jager (slide 8), Yuca Waarts (all other photos)